

### REMARKS

Claims 34, 35, 38-44 stand rejected under 35 U. S. C. 103(a) over U. S. Publication No. 2002/0001346 to Kato, et al. ("Kato") in combination with one or more of the following secondary references, U. S. Patent No. 5,254,106 to Maruoka, et al. ("Maruoka"); U. S. Patent No. 6,560,282 to Tahara et al. ("Tahara"); U. S. Patent No. 5,987,554 to Liu, et al. ("Liu") and U. S. Patent No. 5,969,767 to Ishikawa et al. ("Ishikawa"). Each claim rejection depends on at least a combination of Kato, Tahara, and Maruoka.

The question of whether an invention is obvious under 35 U. S. C. 103(a) is determined based on a variety of factors including: (a) the scope and content of the prior art; (b) the level of ordinary skill in the prior art; and (c) the differences between the claimed invention and the prior art. *Graham v. John Deere Co.*, 383 U. S. 1 (Sup. Ct. 1966). See also, *KSR International Company v. Teleflex Inc. et al.*, 550 U. S. \_\_\_\_\_ (2007).

Applicants continue to regard the claims to be allowable; and, in support of such a position the applicants' remarks submitted in the Office action responses of May 27, 2005, March 21, 2006, May 22, 2006 and December 8, 2006 are all incorporated herein by reference.

A major reference relied upon by the Examiner in support of the rejections and one that is essential to the Examiner's teachings is Maruoka which allegedly has teachings relating to the claimed invention. The applicants have pointed out major deficiencies in Maruoka and in the Examiner's reliance on Maruoka.

For example in the Office action response of December 8, 2006, the applicants' state:

Because the Examiner has not provided an explanation as to why the Examiner believes the reference to "independent data" is a reference to a control signal, it is respectfully asserted that the Examiner has indicated that the teachings of Maruoka cannot support the conclusion that the reference to "independent data" is a reference to "control signals "as recited in applicants' claims. *December 8, 2006 Amendment, Page 9*

Where the applicant traverses any rejection, the Examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it. *MPEP §707(f)*

In the Office action response of December 8, 2006, the applicants' further state:

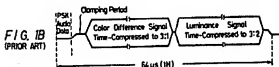
If the Examiner will continue to maintain that the "independent data" referred to in Maruoka is a control signal, the Examiner is respectfully requested to further explain (in addition to explaining why the Examiner regards a reference to "independent data" to be a reference to a control signal) why the Examiner further believes that the independent data referred to in Maruoka is data that is "generated based on [a] compressively coded signal," as is required of the control signal referred to in claims 34, 35, 38, 39, and 40. *December 8, 2006 Amendment, Page 10.*

Where the applicant traverses any rejection, the Examiner should, if he or she repeats the rejection, take note of the applicants' argument and answer the substance of it. *MPEP §707(f)*

The applicants do note that in the final Office action of February 26, 2007 the Examiner facially addresses the noted deficiencies of Maruoka noted by the applicants. In the February 26, 2007 Office action, the Examiner states as follows:

...Regarding the features of time-divisionally multiplexing the picture signals and the control signal, it is clear from Figure 1B of Maruoka that *the color difference and luminance signals that are time compressed represent the "independent data" as disclosed at column 1, line 59 to column 2, line 12.* And since this "independent data" and "audio data" as shown in Figure 1B of Maruoka are time division multiplexed as a packet, inherent if not obvious control signals are involved in the audio and independent data processings in order to timely synchronize and multiplex the digital signal. (emphasis added) *February 26, 2007 Office action, pages 9 and 10.*

The referenced Fig. 1b of Maruoka is as follows.



In response to the Examiner's current statement regarding Maruoka, applicants respectfully assert that, in addition to the statement not substantially addressing the deficiencies of Maruoka pointed out by the applicants, the Examiner has proposed an interpretation of Maruoka that, if taken as true, renders Maruoka a prior art reference that does not have elements that correspond to the elements of applicants' claims for which the reference was cited. In the February 26, 2007 Office action, the Examiner alleges that the control signal element of applicants' claims is satisfied by the color difference signals and luminescence signals of Maruoka. However, if the color difference and luminescence signals of Maruoka are taken to be in satisfaction of the control signal element of applicants' claims, and not the picture signals element of applicants' claims, then Maruoka does not, based on the Examiner's own reasoning, have the claim elements of applicants' claims.

Applicants' claims specifically require elements relating to the time division multiplexing of picture signals and a control signal in a retrace period. However, if the difference and luminescence signals of Maruoka are taken as a control signal, Maruoka at best teaches audio signals and control signals time divisionally multiplexed, and does not teach control signals time divisionally multiplexed with picture signals as is required by applicants' claims.

If the position of the Examiner is that the color difference and luminescence signals of Maruoka are somehow *both* picture signals and, at the same time control signals, the elements of applicants' claims are also not satisfied. Applicants' claims expressly recite elements relating to time division multiplexing of picture signals and a control signal, wherein the control signals are time divided in a retrace period. The Examiner is respectfully requested to confirm that the Examiner regards the color difference and luminescence signals to be, at the same time, *both* picture signals in satisfaction of the picture signals element of applicants' claims and a control signal in satisfaction of the control signal element of applicants' claims, which control signal is recited as being time divisionally multiplexed in a retrace period.

In order to sustain a rejection based on obviousness, the Examiner must consider each and every element of applicants' claims. The Examiner must consider the difference between the claimed invention and the prior art. *Graham v. John Deere Co.*, 383 U. S. 1 (Sup. Ct. 1966). See also, *KSR International Company v. Teleflex Inc. et al.*, 550 U. S. \_\_\_\_ (2007): Because the Examiner has not proposed an interpretation of Maruoka in which all of the elements of applicants' claims would be satisfied even assuming Maruoka was properly combined with the remaining references (which it is not), it is believed that the Examiner has not considered each and every element of applicants' claims. If Maruoka were combined with Kato and the remaining references per the proposed combination of the Examiner, an audio signal and a control signal would be time division multiplexed in a transmission path signal and would not include a transmission path signal including a control signal time time division multiplexed with picture signals as is recited in the claims.

In view of the vast and significant differences between the claimed invention and prior art including the highlighted absence of any teaching or suggestion in the prior art relating to time divisionally multiplexing a control signal generated based on a compressively coded signal in a transmission path in accordance with various claim combinations, the applicants respectfully assert that the Examiner has not considered the differences between the claims and the prior art. *Graham v. John Deere Co.*, 383 U. S. 1 (Sup. Ct. 1966). See also, *KSR International Company v. Teleflex Inc. et al.*, 550 U. S. \_\_\_\_ (2007).

Applicants respectfully assert that the Examiner has not fully considered the differences between the claimed invention and the prior art. Indeed, the Examiner freely admits that vast differences are present between the claimed invention and the relied upon prior art. Notably, in the outstanding Final Office action of February 26, 2007, as will be explained more fully herein, the Examiner maintains an interpretation of Maruoka, which even accepted as true, would not result in all of the claim elements of the various claims being satisfied, even if Maruoka and Kato and the remaining references were properly combinable (which they are not).

Each of the pending independent claims recites a combination of elements relating to a control signal based on a compressively coded signal which is time divisionally multiplexed with a video signal. For example claim 34 recites in combination with numerous additional elements "a decoder to decode a compressively coded signal to output picture signals, including a base-band luminous signal and base-band color different signals, and a control signal which is generated based on the compressively coded signal" in combination with "an encoder to time-divisionally multiplex the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path." Claim 35 recites in combination with numerous additional elements "a decoder to decode a compressively coded signal to output picture signals, including a base-band luminous signal and base-band color different signals, and a control signal which is generated based on the compressively coded signal" in combination with "an encoder to time-divisionally multiplex the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path." Claim 38 recites in combination with numerous additional elements "a decoder to decode transmission path signal into picture signals, including a base-band luminous signal and base-band color different signals and a control signal, the transmission path signal is generated by coding the control signal which is generated based on a compressively coded signal, and the video signal so as to be suited to the transmission path, the control signal is time-division-multiplexed in a retrace period." Claim 39 recites in combination with numerous additional elements "a decoder to decode transmission path signal into picture signals, including a base-band luminous signal and base-band color different signals, and a control signal, the transmission path signal is generated by coding the control signal to be used for controlling image quality, which is generated based on a compressively coded signal and the video signal so as to be suited to the transmission path, the control signal is time-division-multiplexed in a retrace period." Claim 40 recites in combination with numerous additional elements "a decoder to decode transmission path signal into picture signals, including a base-band luminous signal and base-band color different signals and a control signal, the

transmission path signal is generated by coding the control signal which is generated based on a compressively coded signal, and the video signal so as to be suited to the transmission path, the control signal is time-division multiplexed in a retrace period." Claim 43 recites in combination with numerous additional elements "a decoder to decode a compressively coded signal to output picture signals, including a base band luminous signal and base band color different signals, and a control signal which is generated based on the compressively coded signal" in combination with "a transmission path encoding circuit for time-division-multiplexing the picture signals in a video period and the control signal in a retrace period, said control signal including information for use in controlling image quality of the picture signals."

In rejecting the claims, the Examiner sets forth Kato as the primary reference but freely admits that Kato does not have the above combination of elements. The Examiner states:

Kato et al. does not particularly disclose an encoder to time-divisionally multiplex the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission signals... *February 26, 2007 Office Action, Page 2.*

A reading of Kato confirms that Kato does not teach or suggest a control signal generated based on a compressively coded signal and time divisionally multiplex the control signal with the picture signals into transmission path signals.

Applicants respectfully assert that Kato lacks a teaching or suggestion relating to a control signal encoded in a video signal as is recited in the various pending claims. Applicants respectfully note with respect to field memory group 17 disclosed in Fig. 1 of Kato and field memory group 57, that only an image signal is outputted by field memory group 17 and field memory group 57 of Kato and not control signal information. Applicants respectfully request the Examiner to fully consider the differences between the claimed invention and prior art, when assessing whether the claims are obvious over the prior art of record. See *Graham v. John Deere Co.*, 383 U. S. 1 (Sup. Ct. 1966). Further modification of Kato so that control signals are time divided in a transmission signal would change the principle of operation of Kato. If a proposed

modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). See *MPEP* § 2143.01.

In applying Kato, Tahara, and Maruoka, the Examiner further relies on an incorrect legal standard. In maintaining the rejection, the Examiner assesses the technical feasibility of the claimed combination but does not inquire as to whether skilled artisans would have seen the benefit of the claimed combinations.

In attempting to establish that the claims are obvious in view of the references relied upon by the Examiner, the Examiner makes reference to a technical feasibility of the proposed combination. Specifically, the Examiner states:

It is noted that Tahara fails to disclose the specifics of multiplexing the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path as claimed. Maruoka however discloses a television signal receiver system as shown in Figure 1B, and teaches the conventional use of an encoder for time division multiplexing of audio signal and independent data (i.e., control data) during the retrace interval of the video signal, and the encoding of the picture signals and control signal into transmission path signals suited to the transmission path (i.e., the transmission of the multiplexed digital signal as a packet, see column 1, line 59 to column 2, line 13). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Liu et al, Maruoka, and Tahara et al. references in front of him/her and the general knowledge of time division multiplexing systems, **would have had no difficulty in providing** an encoder for time division multiplexing of control data during the retrace interval of the video signal, and the encoding of the picture signals and control signal into transmission path signals suited to the transmission path as taught by the combination of Maruoka and Tahara et al for the transmission system of Kato et al and Liu et al for the same well known time division multiplexing of video and associated data during the retrace period for transmission to a received purposes as claimed. (emphasis added) August 8, 2006 Office Action, pages 4-5. See also February 26, 2007 Office Action, pages 2-3.

It is respectfully asserted that the Examiner has applied an improper legal standard in attempting to establish that there is motivation to combine references. The technical feasibility of a combination is irrelevant to the inquiry as to whether the skilled artisan would see a benefit of a claimed invention, i.e., whether there is a motivation to

combine references. The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, cited in *MPEP* §2143.01. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed," there must be a suggestion or motivation in the reference to do so. *See id.* at 682. The Supreme Court has recently confirmed that a primary inquiry of an obviousness analysis is to determine whether a skilled artisan, given the state of the art and without use of hindsight, would have seen the benefit of making the current combination. ("The proper question to have asked was whether a pedal designer of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, would have seen a benefit to upgrading Asano with a sensor.") *See KSR International Company v. Teleflex Inc. et al.*, 550 U. S. \_\_\_\_ (2007).

Further to the above, it is further asserted that the Examiner has not considered certain advantages of the claimed invention. With a control signal time divisionally multiplexed with picture signals in the video signal transmission path, convenient use of the invention in an intermediary device, *e.g.*, a set top box, between a broadcasting station and a display unit, *e.g.*, a TV monitor is allowed. The specification describes advantageous use of the invention in an intermediary device which can output transmission path signals to a display unit that can be connected to the claimed signal transmission apparatus.<sup>1</sup> The prior art relied upon by the Examiner does not describe and does not exhibit the advantages highlighted herein in terms of use as an intermediary device outputting transmission path signals to a display device equipped display unit, *e.g.*, a TV monitor.

The totality of the record must be considered when determining whether a claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made. Therefore, evidence and arguments directed to advantages not disclosed in the specification cannot be disregarded. *In re Chu*, 66 F.3d 292, 298-99, 36 USPQ2d 1089, 1094-95 (Fed. Cir. 1995) cited in *MPEP* §716.02(f).

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<sup>1</sup> Applicants in this section merely highlight a possible advantage of the invention, and do not make reference to elements recited in the claims.

Further regarding applicants' claims, some, but not all of applicants' claims recite elements relating to a control signal having information relating to picture quality of a base band signal. For example, claim 39 recites: "and a control signal, the transmission path signal is generated by coding the control signal to be used for controlling image quality..." and claim 43 recites: "said control signal including information for use in controlling image quality of the picture signals..."

Applicants respectfully assert that Kato, the primary reference, has no teaching or suggestion relating to a control signal including information relating to a picture quality of a transmitted base band signal. In fact, applicants respectfully assert that Kato lacks a teaching or suggestion relating to a control signal encoded in a video signal as is recited in the various pending claims. Applicants respectfully note with respect to field memory group 17 disclosed in Fig. 1 of Kato and field memory group 57, that only an image signal is outputted by the field memory group 17 and field memory group 57 of Kato and not control signal information. Applicants respectfully request the Examiner to fully consider the differences between the claimed invention and prior art, when assessing whether the claims are obvious over the prior art of record. See *Graham v. John Deere Co.*, 383 U. S. 1 (Sup. Ct. 1966).

Regarding the claims discussed herein, the applicants' selective treatment and emphasis of independent claims of the application should not be taken as an indication that the applicants believe that the Examiner's dependent claim rejections are otherwise sufficient. In fact, it is noted in the outstanding Office action, that the dependent claims are rejected without substantial, and in certain instances, without any reference to the limitations of the dependent claims in combination with the base claim elements. Applicants expressly reserve the right to present arguments traversing the propriety of the dependent claim rejections later in the prosecution of this or another application.

While the applicants herein may have highlighted a particular claim element of a claim for purposes of demonstrating an insufficiency of an examination on the part of an Examiner, the applicants' highlighting of a particular claim element for such purpose should not be taken to indicate that the applicants have taken the position that a

particular claim element constitutes the sole basis for patentability out of the context of the various combinations of elements of the claim or claims in which it is present.

Regarding the Advisory Action of July 19, 2007, applicants respectfully assert that the arguments of the Examiner fail to substantiate the claim rejections. For example, in attempting to substantiate the claim rejections, the Examiner continues to rely on the teachings of the prior art that evidence differences between the claimed invention and the prior art. For example, in the Advisory Action, the Examiner states:

However, with regard to a control signal, the examiner respectfully disagrees with the applicants and maintains that a control signal, which is generated based on the compressively coded signal is indeed output and stored in field memory group 57 of figure 5. Notice that field memory group 57 provides information to motion compensator 56 and that the examiner insists that the information provided is a control signal to control the motion compensation since, for example, intra coded frame would not be used for motion compensation as is the case of inter coded frame. It is respectfully submitted that a control signal must be provided to inform motion compensation 56 what kind of frame currently being stored in the field memory so that the motion compensation can be effectively carried out and because coded signals must carry information such as picture types, slice information to help decoder to decode signals, it is respectfully submitted that the control signal is generated based on the compressively coded. It is very important to understand that Kato et al., while does not particularly disclose that a control signal generated based on a compressively coded signal and time divisionally multiplex the control signal with the picture signals into transmission path signals, Kato et al does meet limitation of a control signal is outputted as a result of decoding. *July 19, 2007 Advisory Action, page 4.*

It is respectfully submitted that the highlighted teachings of Kato would motivate the skilled artisan to build system in accordance with the teachings of Kato. Accordingly, it is respectfully submitted that Kato teaches away from the claimed invention.

The Supreme Court has recently confirmed that the differences between the claimed invention and the prior art, are of primary consideration in an obviousness determination. See *KSR International Company v. Teleflex Inc. et al.*, 550 U. S. \_\_\_\_\_ (2007). The Examiner's indication that there are substantial differences between the claimed invention as recited in various forms in the claims and the relied upon art, applicants respectfully submit, strongly evidences that the claims are allowable.

Further regarding the Examiner's Advisory Action of July 19, 2007, the Examiner asserts that the applicants have made an "admission" respecting certain teachings of the prior art. "The Examiner, first of all, appreciates the fact that applicants freely and correctly admit that "audio signals and control signals are time divisionally multiplexed." July 19, 2007 Advisory Action, page 9.

Applicants respectfully assert that the Examiner's characterization of statements made by applicants as an "admission" is not supported by the prosecution record. Notably, the Examiner, in characterizing applicants' remarks regarding an audio signal and a control signal fails to acknowledge the qualifier preceding applicants' statement that "*if* the differences in luminescence signals of Maruoka are taken as a control signal..." (emphasis added). The applicants' qualifier, "*if* the differences..." clearly presents the referred to statement as a hypothetical and any characterization of the same as an "admission" is contradicted by the prosecution record.

The remarks preceding the noted statement of the applicants further emphasizes that applicants have not admitted that color difference signals and luminescence signals of Maruoka are control signals as recited in the context of the particular combinations of the various claims. Preceding the qualifier, applicants state as follows: "In the February 26, 2007 Office action, the Examiner alleges that the control signal element of applicants' claims is satisfied by the color difference signals and luminescence signals of Maruoka. However, if the color difference and luminescence signals of Maruoka are taken to be in satisfaction of the control signal elements of applicants' claims, and not the picture signals element of applicants' claims, then Maruoka does not, based on the Examiner's own reasoning, have the claim elements of applicants' claims." *Applicants' response, June 26, 2007, page 10, lines 19-25.*

Applicants respectfully object to the Examiner's characterization of the statement by the applicants regarding audio signals and control signals as an "admission," and respectfully request the Examiner appropriately note the qualifier of applications ("if the differences...") if the Examiner will continue to refer to applicants' statements regarding audio signals and control signals.

Regarding new claims 45-53, new claims 45-53 recite elements further distinguishing the claims from the relied upon prior art, the claims already being amply distinguished from the prior art without the additional recited elements. New claims 45-53 recite further elements relating to certain functionality of the recited transmission (reception) apparatus wherein the transmission (reception) apparatus is adapted so that any one of a plurality of different types of display units can be connected to the apparatus. The additional language, while not identical to language of the specification, is believed to be supported throughout the specification, e.g., at paragraphs [0083], [0099], and [00118], of corresponding U. S. Publication No. 2002/0163970.

It is not a requirement that an applicant deploy in the claims identical terms as used in a patent specification. Exact terms need not be used *in haec verba* to satisfy the written description requirement of the first paragraph of 35 U.S.C. §112. *Esilestein v. Frank* 52 F.3d 1035 (Fed. Cir. 1995). Cited in *MPEP §1302.01*. Also, only substantial correspondence between the language of the claims and the language of the specification is required. *37 C.F.R. §1.121(e)*. Cited in *MPEP §1302.01*.

The Examiner is respectfully requested to notify the applicant if the Examiner regards the additional language not to be disclosed in the original specification. In one example of the apparatus recited in various forms by the applicant, an apparatus is provided by a set top box (STB). In another example, the apparatus is provided by a digital camera. In another example, the apparatus is provided by a notebook computer.

Applicants respectfully assert that the primary reference, Kato, while describing elements of a broadcasting station and a receiving apparatus, does not teach or suggest a transmission apparatus in which the transmission apparatus is adapted so that the transmission apparatus can receive a display unit of plurality of types. If the Examiner wishes to maintain the rejections over Kato, the Examiner is respectfully requested to explain where in Kato or elsewhere in the prior art there is a teaching or suggestion relating to an apparatus having the elements as recited in the various pending claims wherein said apparatus is adapted so that any one of a plurality of

different types of display units can be connected to said apparatus for receipt of a video signal transmitted by the apparatus.

Accordingly, in view of the above amendments and remarks, applicants believe all of the claims of the present application to be in condition for allowance and respectfully request reconsideration and passage to allowance of the application.

If the Examiner believes that contact with applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call applicants' representative at the phone number listed below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to deposit Account No. 50-0289.

Dated: July 26, 2007

Respectfully submitted,

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